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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,199	07/16/2001	Takeshi Hachiya	P103213-00029	3042

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EXAMINER

NATNAEL, PAULOS M

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,199

Applicant(s)

HACHIYA ET AL.

Examiner

Paulos M. Natnael

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-11 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figures 8A-8C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

While the specification describes a subtractor for calculating a difference between the input data and the edge detected signals, there is no enabling disclosure described in the specification to show "a second subtractor for calculating a difference between the data value of each of the two adjacent signals nearest to the target signal and the data value of the target signal by subtracting the data value of that adjacent

signal from the data value of the target signal", as recited in claim 2 and, therefore, one skilled in the art would not be able to make and use the invention as claimed without undue experimentation.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Klees, U.S. Pat. No. 5,060,284.

Considering claim 1, Klees discloses all claimed subject matter, note;

a) the claimed a clipper for clipping a target signal fed thereto within a range of data values set for the target signal, is met by the OR gate 62, fig.2;

b) a subtractor for subtracting, from a data value of the target signal to be clipped by the clipper, each of data values of adjacent signals located a predetermined interval away from the Target signal before and after the target signal, is met by Adder/Subtractor 56, fig.2;

c) a minimum value setter for setting, as a minimum value of the range of data values for the target signal, the data value of one of the two adjacent signals that, when

subtracted from the data value of the target signal, yields a difference greater than a first threshold value, is met by the Local minimum detector 42, fig.1;

d) a maximum value setter for setting, as a maximum value of the range of data values for the target signal, the data value of one of the two adjacent signals that, when subtracted from the data value of the target signal, yields a difference smaller than a second threshold value, is met by Local Maximum detector 45, fig.1;

e) the claimed wherein, when the data value of the target signal fed to the clipper falls within the range of data values set for the target signal by the maximum value and minimum value setters, the target signal is output: intact, when the data value of tree target signal fed to the clipper is smaller than the minimum value, the target signal is output after being clipped at the minimum value, and, when the data value of the target signal fed to the clipper is greater than the maximum value, the target signal is output after being clipped at the maximum value, is met by the disclosure "... if addition is performed and the result exceeds 255, the signal must be reduced or clipped to 255. If on the other hand, a subtraction were performed, and the signal is less than zero, it must be clipped to zero. An exclusive-OR gate 62 is used to make this determination, and is used to control the output of an 8 bit 2:1 multiplexer 64." (col. 4, lines 32-38)

Allowable Subject Matter

6. Claims **3-11** are allowable over the prior art.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose a range setting circuit for comparing, for each of image signals obtained from individual pixels, a data value of a target image signal obtained from a pixel targeted by the edge enhancement with each of data values of two adjacent image signals obtained from pixels adjacent to the targeted pixel to set a range of data values in which the data value of the target image signal is allowed to vary by setting as a maximum value the data value of one of the two adjacent image signals whose data value is greater than the data value of the target image signal and setting as a minimum value the data value of one of the two adjacent image signals whose data value is smaller than the data value of the target image signal, as in claims 3 and 7;

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ohara, U.S. Pat. No. 5,581,306 discloses a method for improving the sharpness of the horizontal edge of an image, comprising an edge detection circuit and adder and a clipper circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.


Application/Control Number: 09/905,199
Art Unit: 2614

Page 6

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Paulos Natnael
November 14, 2003



MICHAEL H. LEE
PRIMARY EXAMINER